APRIL/MAY 2025

FAEL42 / CAEL44 / BAEL44 — BASIC PHYSICS II (Allied)

Time : Three hours | Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is specific rotation?
2. What are the conditions for interference?
3. What are the types of spectra?
4. What is Rayleigh scattering?
5. What are radio activity materials?
6. What is principle quantum number?
7. Classify elementary particles.
8. What are the limitations of liquid drop model?
9. What is frame of reference?
10. What is length contraction?

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SECTION B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Explain optical activity phenomenon.

Or

(b) Write a note on polarimeter.

12. (a) Write down the theory of Raman effect.

Or

(b) Explain the principle and applications of laser.

13. (a) Discuss natural radio activity.

Or

(b) Explain photoelectric emission.

14. (a) Write short note on Isospin and Strangeness.

Or

(b) Classify elementary particles.

15. (a) Deduce Einstein's mass energy relation.

Or

(b) Explain Galilean transformation.

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SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. How do you measure wavelength and radius of curvature by Newton's rings?

17. Explain construction and working of He-Ne laser.

18. Describe Millikan's experiment.

19. Explain shell model of nucleus.

20. Discuss the postulates of special theory of relativity and Time dilation.

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